EDITORIALS

Violence by Handguns

THE RECENT assassination attempt on President Reagan may well result in some form of legal control such as the registration or outlawing of handguns. But it is only naive to believe that the passage of any law will either do away with handguns or with their misuse. For the foreseeable future there will always be handguns around for those who wish to use them. Banning or registering them may help some but can in no way be expected to solve the problem.

The use of handguns for violent acts has always been more or less endemic in this country but in recent years seems to have become almost epidemic. Perhaps the problem should now be viewed as an epidemic. In an epidemic, efforts are made to immunize susceptible hosts or to control the agents of transmission, or both. In the instant case the disease may be described as the use of handguns for violent acts by susceptible hosts who somehow have become infected with the virus of this behavior. How then can such an epidemic be controlled?

It is suggested that efforts at control could be directed to the susceptible hosts, to the lethal instruments or to the agents of transmission of this method of violent behavior. We know of no way to immunize the susceptible hosts or even to identify them accurately, and it is unlikely that the lethal instruments themselves, the guns, can be adequately controlled. What then are the agents of transmission and can anything be done about them?

If one were to look detachedly at our television programs, motion pictures and news media one might easily conclude that this nation has considerable infatuation with violence by handguns, whether in the world of entertainment or in the events of the day. One might reasonably conclude that Americans not only condone violence by handguns but actually enjoy it. It seems almost too much to expect that this epidemic, which causes so much injury and so many deaths, can be brought under control as long as the agents of transmission are effectively reaching so many susceptible hosts with such acceptance and approval from the public at large.

—MSMW

Ascites

ASCITIC FLUIDS usually form slowly. This is a clinical problem in that ascites is often recognized only when garments become unexpectedly restrictive. If severe pain with peritoneal irritation is present, ascites is usually considered to reflect an acute or subacute abdominal condition. Ascites associated with either abnormalities of liver function or a history of heavy alcohol intake is too often labeled and treated as cirrhotic ascites without adequate investigation. Such premature evaluation and treatment may lead to overzealous use of loop diuretic agents or even the LeVeen peritoneal jugular shunt.

The specialty conference in this issue discusses an unusual problem of recurrent ascites and illustrates clearly the need to determine its cause in order to initiate specific therapy. Such an investigation must include microscopic examination of the ascitic fluid and the use of some sort of biochemical method, such as analysis of its protein levels, to separate fluids into transudates, where increased quantities of normal capillary fluid appear often from venous blockage, and exudates, in which an inflammatory component changes capillary permeability. The specialty conference provides an excellent review of some of the methods used to separate *transudates* from *exudates*. The

difficulty in the end, however, is not in the choice of biochemical test but in the correct interpretation of the variable features within a single disease entity that is causing ascites.

The acute onset of ascites associated with liver necrosis, as in severe drug hepatitis or unstable cirrhosis, may be associated with inflammation, resulting in exudative features that are in contrast to the customary transudation of the ascitic fluid. Both cancer and tuberculosis cause ascites by seeding the peritoneum with many nodules; however, they may also block lymphatics or the portal vein with nodules. In miliary seeding, the ascitic fluid is very high in protein and is clearly exudative, with malignant cells seen on cancer cytology or with tubercle bacilli demonstrated, respectively. In contrast, in portal vein obstruction the fluid may be a transudate free of specific agents. All intermediate gradations are seen.

Ascitic fluid with more than 3.0 to 3.5 grams per dl of protein or more than 300 cells per cu mm is almost always exudative. Applying complex ratios of serum to ascitic proteins or specific larger proteins to better discern capillary leaks increases specificity only moderately. Nearly all of these techniques have increasingly false-positive results when applied to all diagnostic problems involving ascites rather than when limited to well-characterized cases.

It seems clear that more errors are made because of failure to sample the ascitic fluid for diagnosis rather than failure to apply a newer test. All ascites of unknown origin requires study of the fluid, including measurement of protein content, cell count and differential. In most cases an amylase level, cytological examination for malignant cells and cultures for bacteria and mycobacteria should be obtained. When treatment is undertaken on the basis of a probable but not definite diagnosis, a follow-up examination should include a critical reevaluation of the patient's entire condition. If ascites persists, another fluid specimen should be obtained for further study.

When ascites is present, what value is there to be derived from its treatment? Prominent abdominal distention has an adverse cosmetic effect and its successful treatment often encourages the patient to comply with the total therapy. But what other impressive advantages accrue from treatment? A few benefits are dramatic; thus, prominent umbilical hernias with injured and near gangrenous skin improve promptly with control of ascites; other hernias require control of ascites before surgical repair can be maintained. Lower lobe pneumonia and stasis ulcers of the legs usually respond more rapidly when ascites is diminished. Portal pressure is lowered by control of ascites in patients who have had recent bleeding from varices and this is generally done. Other advantages often evoked in theory seldom materialize in reality. Patients with poor appetites rarely regain them and patients refractory to diuretic therapy seldom become responsive after paracentesis.

In most patients with ascites (other than in cases due to a malignant lesion), the condition improves and remains improved because of some substantive change in the cause of the ascites—a specific inflammatory cause subsides, a surgical correction is effected, alcoholic liver disease heals due to abstinence or portal pressure falls in response to treatment. Diminished dietary sodium and diuretic therapy (such as combinations of spironolactone and furosemide) usually control ascites for a time, but if the basic process worsens or the condition is absolutely stable, compliance drops off and in many patients ascitic fluid reaccumulates despite apparent continued treatment. This unsatisfactory long-term outcome in treatment of nonspecific ascites should mandate even more efforts to make a definitive initial diagnosis. Constrictive pericarditis, occlusion of the hepatic veins or suprahepatic vena cava, pancreatic ascites, tuberculous peritonitis, active liver disease (due to continued ingestion of drugs or alcohol) or steroid-responsive liver disease occur frequently among patients referred for refractory ascites.

The LeVeen peritoneal-jugular shunt relieves ascites in some patients by the reinfusion of ascitic fluid into the venous circulation. When critical criteria for its use are demanded, it is clear that well under 10 percent of the patients who have ascites are eligible for the procedure. The complications of this shunt are many, including sepsis, activated coagulation with disseminated intravascular coagulation and thrombosis of the shunt. These are sufficiently well known to lessen enthusiasm, and most of us are awaiting the outcome of the current randomized controlled trials before establishing our own patterns of use.

Ascites is an important sign of disease; its long-term control is possible only when the underlying condition is correctly diagnosed and, if possible, effectively treated. The cosmetic control of ascites without a careful diagnosis and follow-up is harmful to some patients because symptoms are allevi-

ated and the motivation for determining the underlying cause of ascites in order to provide appropriate therapy may be lessened.

FRANK L. IBER, MD
Professor of Medicine
Chief, Gastroenterology
University of Maryland Hospital and the Loch Raven Veterans Administration Medical Center
Baltimore

Financial Aid for Medical Students

EVENTS ARE CONSPIRING to intensify the financial problems of many needy medical students and of some who may not be so needy. The costs of going to medical school (often while raising a young family as well) have risen sharply, and the numbers of dollars available for student loans and other kinds of student aid are beginning to fall off, also sharply. Some schools and some students are more affected than others, but the overall problems are both immediate for many students and long-term for the profession. As might be expected, inflation and recent federal retrenchments are at the root of what for some is a true financial crisis. The recent and proposed federal retrenchments include an abrupt reduction in capitation funds for medical schools and a sharp curtailment of dollars and loan guarantees for medical student aid. No doubt this results partly from the current belief that there are now enough and maybe too many young doctors in the educational pipeline.

Some figures may be useful. Many physicians may be unaware that the tuition in a substantial number of medical schools is now up to $8,000 to $10,000 a year—with no guarantee for what it might become a year or two hence. As federal support drops off it is clear that more of the cost of medical education will have to be borne by students as tuition rises. Student indebtedness is growing. In 1971, for example, 72 percent of graduating seniors had an average indebtedness of $5,500. By 1979 there were 76 percent who had an average indebtedness of $15,800, with 30.7 percent being in debt for more than $20,000. The figures for 1981 are not yet available, but there are some senior medical students who will owe as much as $65,000 upon graduation. The money which must come from somewhere for medical student aid of all kinds amounts to several million dollars per medical school, and today's interest rates on commercial loans often place them well out of the reach of medical students.

The adverse effects of these financial problems of needy medical students are easily seen. Three seem particularly obvious. First, some will simply not be able to pay the tuition in addition to their other expenses and will have to drop out of school for a year or two, or even permanently, and this has begun to happen. Second, students who make it through medical school and start practice with high costs for such things as insurance, equipment and perhaps a young family, in addition to a heavy indebtedness, understandably may tend to place a high priority on an adequate income for themselves at the expense of any ideals of service which may have been among the reasons they chose a career in medicine in the first place. And, third, if it comes to pass that only the affluent can afford to go to medical school at all, this would be a giant step backward at a time when there is great progress toward having a population of physicians that reflects the ethnic, cultural and economic characteristics of the nation. There is much in all this that surely will not be healthy for medicine, for patients or for society as a whole.

What is to be done? The problem is not likely to go away in the foreseeable future. The issue for the medical profession is what the next generation of physicians will be like, and what will be their attitudes toward the traditional ethos of our profession. It would seem that for many these attitudes may be unduly colored by the financial circumstances under which they must begin their life of practice. If this is true then the financial burden of at least the more needy medical students should be lessened. Where can the money come from? Perhaps it is time that practicing physicians take a more direct interest in those who will be the future of our profession by individually and collectively sponsoring future physicians who need financial help to complete their training. It is surely important that medical students emerge from their training as good physicians dedicated to the highest traditions of professional service, and also that in the future no one be denied the opportunity to go to medical school simply because he or she does not happen to be sufficiently affluent.

Any medical school dean will be glad to hear from any physician or group of physicians interested in assisting needy medical students.

—MSMW